REMARKS

Applicant respectfully requests reconsideration. Claims 1-4, 7-8 and 16-20 were previously pending in this application. Claim 1 is amended. As a result, claims 1-4, 7-8 and 16-20 are pending for examination with claims 1 and 18 being independent claims. No new matter has been added.

Rejections Under 35 U.S.C. §103

Claims 1-4, 7-8, 18 and 19 stand rejected under 35 U.S.C. §103(a) as purportedly being unpatentable over U.S. Patent Publication No. 2004/0131934 ("Sugnaux"). Claims 16 and 20 stand rejected under 35 U.S.C. §103(a) as purportedly being unpatentable over Sugnaux as applied to claim 1 above, and further in view of JP 2003021410 ("Ishibashi"). Claim 17 stands rejected under 35 U.S.C. §103(a) as purportedly being unpatentable over Sugnaux in view of U.S. Patent No. 6,656,633 ("Yamakawa").

Sugnaux is directed to electrochemical cells that employ non-aqueous organic electrolyte, solid polyimer electrolyte and porous electrode materials.

In the response to arguments filed on March 30, 2010, the Office Action acknowledges that Sugnaux does not explicitly teach the use of Pt, Ru, Co, Ti, Ni, Al and Au. However, the Office Action contends that one with common knowledge in the art at the time of the invention would know that the teaching of Sugnaux includes these metals. Applicant respectfully traverses this rejection.

The Office Action relies on "well-known" art to determine that one with common knowledge in the art at the time of the invention would have known, given the general teaching of Sugnaux providing a laundry list of conductive materials that includes metals and alloys thereof, to use at least one of the pure metals Pt, Ru, Co, Ti, Ni, Al or Au in a mixture with carbon and a binder to form an electrode for incorporation in a solar cell. Based on MPEP §2144.03, an argument based on common knowledge or "well known" prior art must be corroborated by evidence that demonstrates that the claimed group of metals consisting of Pt, Ru, Co, Ti, Ni, Al and Au for use in

a mixture with carbon and a binder to form an electrode of a solar cell is capable of instant and unquestionable demonstration as being well-known.[1]

Given the full teaching of Sugnaux, particularly regarding how electrodes for electrochemical cells are produced in the context of ionic compounds that contain metal atoms rather than pure metals,[2] it is unclear how one of skill would have instantly and unquestionably considered using one of Pt, Ru, Co, Ti, Ni, Al and Au in pure metal form. Contrary to using a pure metal, it would appear that one of skill having read and understood Sugnaux would have sought to use metal oxides in the electrode as opposed to carbon carrying a pure metal. Indeed, some direction must be provided for how usage of metal oxides with a binder to form an electrode is unquestionably translated to usage of the pure metals listed above with carbon and a binder to form an electrode. Applicant requests that the Examiner provide a prior art reference that unquestionably demonstrates that it would have been obvious to incorporate at least one of Pt, Ru, Co, Ti, Ni, Al and Au in pure metal form in a mixture with carbon and a binder to create an electrode for a solar cell. Unless such a reference can be provided, for at least the reasons stated, the rejections of independent claims 1 and 18 should be withdrawn.

Independent Claim 1

Despite the fact that no disclosure has been provided in any of the applied references as to the incorporation of a pure metal or alloy of pure metals including a metal selected from the group consisting of Pt, Ru, Co, Ti, Ni, Al and Au with carbon and a binder in forming an electrode for a solar cell, independent claim 1 has been amended to recite that the carbon carrying a metal is prepared prior to mixing with the binder.[3]

Sugnaux does not disclose preparation of a carbon carrying a metal prior to mixing of the carbon carrying the metal with a binder. In fact, and as alluded to previously, it appears that the examples of Sugnaux, which describe a process for manufacturing the electrode, only disclose

[1] MPEP §2144.03 states: "Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known... It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known."
[2] See, for example, paragraphs [0049] and [0055] of Sugnaux.
[3] Support for this amendment can be found, at least, in paragraphs [0060] and [0061] of the published specification.

mixing of a metal oxide with a binder material. No indication is provided of a carbon carrying a metal that is mixed prior to addition of the binder.

In contrast, claim 1 recites that carbon carrying a metal is prepared prior to mixing with the binder. Referring to paragraphs [0060] and [0061]of the published specification as an embodiment, once carbon carrying Pt is obtained, a binder polymer is subsequently added to the carbon carrying Pt and they are mixed until the mixture becomes uniform.

Accordingly, because Sugnaux does not disclose, at least, carbon carrying a metal being prepared prior to mixing with the binder, the rejection of independent claim 1 should be withdrawn.

For at least the same reasons as stated above for claim 1, the rejections of claims 2-4, 7-8, and 16-17 which depend from claim 1 should also be withdrawn.

Independent Claim 18

The Office Action acknowledges that Sugnaux does not show an amount of metal in the electrode ranging between 5 wt % and 15 wt % relative to the carbon. Though, the Office Action asserts that it would have been obvious for an amount of metal in the electrode to range between 5 wt % and 15 wt % relative to the carbon, contending that where the general conditions of a claim are disclosed in the prior art, discovering optimum or workable ranges involves only routine skill in the art. Applicant respectfully traverses this rejection.

It appears that the Office Action is, again, relying on common knowledge or "well known" prior art. However, the Office Action has not provided any evidence as to the general conditions of the claim that are disclosed by the prior art. Instead, the Office Action has provided a broad statement assuming that the prior art does, in fact, disclose electrodes with carbon carrying both a metal and a binder wherein the amount of metal in the electrode ranges between 5 wt % and 15 wt % relative to the carbon. Applicant notes that the particular range of metal weight percentages of carbon in the electrode is important to balance increasing the amount of carried metal and overall cost.

Based on MPEP §2144.03, an argument predicated on common knowledge must be corroborated by evidence that demonstrates that an amount of metal in an electrode that incorporates carbon, metal and a binder ranging between 5 wt % and 15 wt % relative to the carbon

is capable of instant and unquestionable demonstration as being well-known. Because none of the applied references teaches or discloses electrodes with metal that ranges between 5 wt % and 15 wt % relative to carbon in the electrode, it is respectfully requested that the Examiner demonstrate on the record evidence showing that such electrodes were already known. Unless such a showing can be made, for at least this additional reason, the rejection of independent claim 18 should be withdrawn.

CONCLUSION

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, the Director is hereby authorized to charge any deficiency or credit any overpayment in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account No. 23/2825, under Docket No. S1459.70092US00.

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Respectfully submitted,

By Randy J. Pritzker

Randy J. Pritzker
Registration No.: 35,986
WOLF, GREENFIELD & SACKS, P.C.
600 Atlantic Avenue
Boston, Massachusetts 02210-2206
617.646.8000